

REMARKS

This Reply responds to the Office Action mailed October 20, 2004. Claims 1-26 are pending in this application and stand rejected.

Applicants have amended claims 1, 8, 9, 13, 14, 20, 21, 22 and 26. Applicants note that no new matter is being added by these amendments as the subject matter of the amendments is fully supported by the specification, drawings, and claims as originally filed. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Claim Objections

Claim 26 was objected to because of certain informalities. Applicants have amended claim 26 by replacing the final ";and" with a period and therefore respectfully request that the objection be withdrawn.

Rejection of Claims Under 35 U.S.C. § 102(b)

Claims 1-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,155,112 (Eckert et al.).

It is well settled that "[a]nticipation under 35 U.S.C. § 102 means lack of novelty, and is a question of fact. To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim." *Brown v. 3M*, 60 U.S.P.Q.2d 1375, 1376 (Fed. Cir. 2001), *cert. denied*, 535 U.S. 970 (2002). Moreover, "[a] single reference must describe the claimed invention with

sufficient precision and detail to establish that the subject matter existed in the prior art.” *Verve LLC v. Crane Cams Inc.*, 65 U.S.P.Q.2d 1051, 1054 (Fed. Cir. 2002). Finally, in addition to the requirement that the anticipating reference describe the patented subject material with sufficient clarity and detail to establish that the subject matter existed in the prior patent, it must also establish “that such existence would be recognized by persons of ordinary skill in the field of the invention.” *Crown Operations Int’l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d 1917, 1921 (Fed. Cir. 2002).

Applicants have amended independent claim 1 to recite that the sensor head is exposed and positioned externally from the container. The Office Action equates the exciter element 5 of Eckert et al. with the claimed sensor head. However, the exciter element 5 is located within the housing 11 of Eckert et al. (Col. 5, ll. 13-14; Figs. 1 & 2.) The housing 11 along with flange 12, which is formed on the housing 11, encloses the container 3 of Eckert et al. In other words, the exciter element 5 is located within the space defined by the housing 11, the flange 12, the connection piece 2, and the container 3 of Eckert et al. (See Figs. 1 & 2.) However, as amended, independent claim 1 recites that the sensor head is exposed and positioned externally from the container. As described in the specification, the sensor head is located above the deck to allow for human operation and interaction. (Specification p. 5, ll. 1-3.) Such operation and interaction is not possible with the exciter element 5 shown in Eckert et al. Because Eckert et al. fails to show a sensor head as recited and arranged in amended claim 1, it cannot anticipate independent claim 1 or dependent claims 2-9. Accordingly, Applicants respectfully request the rejection of claims 1-9 be withdrawn.

Applicants have also amended independent claim 1 to recite that the plurality of rod sections are generally of equal width and that the outer surface of the rod sections are in contact with either an upper fluid, various stratified fluids, or a gas. Eckert et al. discloses an antenna that is rod-shaped and has three sections, a first section 70, fastened to the housing 11, a solid cylinder 71 adjoining the first section 70, and a transmitting rod 72 formed onto the solid cylinder 71 at the end. (Col. 5, ll. 30-33.) The Office Action equates the first section 70, the solid cylinder 71, and the transmitting rod 72 with the claimed rod sections. However, the solid cylinder 71 is tapered at its upper end and the transmitting rod 72 is tapered throughout its entire length. (Figs. 1 & 2.) Thus, none of these sections are of generally equal width. The width of the first section 70 is clearly smaller than that of the solid cylinder 71, thus requiring that the solid cylinder 71 be tapered to mate with the first section 70. Moreover, the transmitting rod 72 does not even have a generally equal width itself due to its longitudinal taper and its variable widths are almost all smaller than that of the solid cylinder 71. Because at least two of the three antenna sections shown in Eckert et al. are tapered and because they do not have generally equal widths, Eckert et al. cannot anticipate amended independent claim 1 or dependent claims 2-9. Applicants respectfully request that the rejection of claims 1-9 be withdrawn.

Finally, the solid cylinder 71 of Eckert et al. is wrapped in a metallic sleeve 8 which itself is encased by a protective sleeve 9. (Col. 5, ll. 62-63; Col. 6, ll. 65-66; & Figs. 1 & 2.) These two sleeves, 8 and 9, prevent the entire solid cylinder 71 from having any contact with any fluid in the container or the air above the fluid. Similarly,

the first section 70 which is encased by the housing 11 has absolutely no contact with either the fluid or the air. Finally, there is no suggestion in Eckert that the tank should be or is filled to such a point that section 72 contacts fluid. Because at most one, and likely none, of the antenna sections shown in Eckert et al. make contact with either the air or the fluid stored in the container, Eckert cannot anticipate amended independent claim 1 or dependent claims 2-9 which recite plural sections in contact with the fluid.

Applicant has also amended claim 8 to recite that the apparatus contains at least one rod section that is longitudinally curved. Eckert et al. fails to provide any disclosure of any antenna or rod-shaped sections that are not linear. However, as disclosed in Fig. 5, and described on page 7, lines 21-25, and page 8, lines 1-7 of the application, the claimed apparatus can include a rod section that is curved, i.e., has an elbow rod section. Such a curved section is significant as it allows the apparatus to negotiate various obstructions within a container and may allow for the apparatus to extend to the very bottom of the container. *Id.* Because Eckert et al. does not disclose an apparatus wherein at least one rod section is longitudinally curved, it cannot anticipate amended claim 8. Accordingly, Applicants respectfully request the rejection of claim 8 be withdrawn.

Applicants have also amended claim 9 to recite that the head flange is sandwiched between the sensor head and the container so that the sensor head and the rod sections may be removed from the container without removing the head flange. The Office Action equates the flange 12 of Eckert et al. with the claimed head flange, and as discussed, the exciter element 5 with the claimed sensor head. However, as

clearly shown in Figs. 1 and 2, the flange 12 is not sandwiched between the exciter element 5 and the container 3 but rather serves, as discussed, to enclose the exciter element 5 within the interior space defined by the container 3 and the connection piece 2. Additionally, it does not appear that the exciter element 5 and certainly none of the antenna sections 70, 71, 72 could be removed from the container without first removing the housing 11 and flange 12. Because Eckert et al. fails to disclose a head flange sandwiched between the sensor head and the container wherein the sensor head and the rod sections may be removed from the container without removing the head flange, it cannot anticipate amended claim 9. Accordingly, Applicants respectfully request the rejection of claim 9 be withdrawn.

Rejection of Claims under 35 U.S.C. § 103(a)

Claims 10-15 stand rejected under 35 U.S.C. §103(a) for being unpatentable over Eckert et al. in view of U.S. Patent No. 6,184,818 (Meinel). Claims 16-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Eckert et al. and Meinel in view of GB 2385478 A (Gregory). Claims 20-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Eckert et al., Meinel, and Gregory.

It is well settled that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992). "Under section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so." *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

Claims 10-19 all depend directly or indirectly from independent claim 1. Applicants respectfully submit that the amendments to independent claim 1 have rendered dependent claims 11-19 unobvious. Accordingly, Applicants respectfully request that the rejection of claims 10-19 be withdrawn.

As originally filed, claim 11 recites that the apparatus has a plurality of connectable tube sections containing a plurality of circumferentially and longitudinally spaced slots. Use of multi-section tubes, like multi-section rods, allows the apparatus to be transported through the passages of a ship for installation after the ship is constructed. (Specification p. 6, ll. 3-11.) Additionally, the circumferentially longitudinal spaced slots of claim 11 are positioned at different positions around the gauge tube to ensure the equalization of fluid within the tube so that even with stratified liquids, the fluid levels within the gauge tube will be representative of the fluid levels in the tank at large. (Specification p. 6, ll. 17-20.)

The Office Action cites claim 7 of Meinel as grounds for rejecting claim 11. However, Meinel only discloses a single pipe or a settling tube 14. Applicants assert that modifying Meinel to use tube sections is not obvious as there is no reason to suggest using a multi-component pipe or settling tube in a generally rectangular shaped tank. (See Fig. 4.) Because Meinel fails to disclose, teach, or suggest the use of tube sections, it does not render claim 11 obvious. Accordingly, Applicants respectfully request that the rejection of claim 11 be withdrawn.

Additionally, claim 7 of Meinel merely discloses that the pipe 14 has a "plurality of flow openings disposed along a course of said pipe." (Col. 4, ll. 25-27.) The

other flow openings recited in claim 7 of Meinel are not in the pipe or settling tube but rather in the waveguide 6. (Col. 4, ll. 28-30) Thus, as shown in Fig. 4 of Meinel, all of the flow openings 16 are arranged in a single column. Moreover, at least with regard to the openings 10 in the waveguide 6, Meinel specifically teaches that in order to retain the defined propagation characteristics, these openings must be arranged in particular along a casing line. (Col. 2, ll. 47-49.) Hence, the thrust of Meinel, is that both the openings 10 and 16 be positioned along a singular columnar line. Because Meinel fails to disclose, teach, or suggest circumferentially or radially spacing slots around the tube, it does not render claim 11 obvious. Accordingly, Applicants respectfully request that the rejection of claim 11 be withdrawn.

Applicants have also amended claim 13 to recite that the tube sections have coupling flanges which are connected together with a plurality of fasteners. In addition to Meinel not disclosing, teaching, or suggesting that the pipe or settling tube can be comprised of multiple tube sections, there is also no disclosure of the pipe or settling tube or any sections thereof having coupling flanges which are connected together with a plurality of fasteners. Applicants assert that such a modification to Meinel is not obvious as there is no reason to suggest using a multi-component pipe or settling tube in a generally rectangular shaped tank. (See Fig. 4.) Accordingly, Applicants respectfully request the rejection of claim 13 be withdrawn.

Applicants have also amended claim 14 to recite that at least one tube section is longitudinally curved. Longitudinally curved tube sections are useful to negotiate various obstructions within a container as well as to allow the apparatus to

extend to the very bottom of the container to ensure accurate fluid measurements. (Specification p. 7, ll. 21-25 and p. 8, ll. 1-7.) However, Meinel fails to disclose, teach, or suggest anything but a straight pipe or settling tube 14. Applicants assert that such a modification to Meinel is not obvious as there is no reason to suggest using a curved or bent pipe in a generally rectangular shape tank. (See Fig. 4.) Accordingly, Applicants respectfully request the rejection of claim 14 be withdrawn.

Applicants have also amended independent claim 20 to recite that the microwave transceiver sensor head is exposed and positioned externally from the container, the head flange is sandwiched between the head and the container wherein the head and the rod sections may be removed from the container without removing the head flange, the waveguide sensor rod is comprised of a plurality of generally equal width rod sections, the outer surface of the rod sections being in contact with either an upper fluid, various stratified fluids, or a gas, and the tube sections have coupling flanges which are adapted to connect together with a plurality of fasteners. Applicants respectfully request that for the reasons discussed herein, that these amendments render this claim and dependent claim 21 unobvious. Accordingly, Applicants respectfully request the rejection of amended independent claim 20 and dependent claim 21 be withdrawn.

Applicants have also amended claim 21 to recite that at least one tube section is longitudinally curved. Applicants believe this amendment renders this claim unobvious and respectfully requests that the rejection of claim 21 as being unpatentable over Eckert et al., Meinel and Gregory be withdrawn.

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In view of the amendments to the claims, Applicants also believe that method claims 22-26 have been rendered further unobvious. Applicants have also amended claim 22 to recite that the slotted gauge tube sections have flanges. Accordingly, Applicants respectfully request that the rejection of claims 22-26 be withdrawn.

CONCLUSION

As a result to the amendments of the claims and the remarks given herein, Applicants respectively assert that the rejection of claims 1-26 have been overcome.

Therefore, Applicants respectfully request Notice of Allowance with respect to claims 1-26 at the Examiner's earliest convenience. If the Examiner feels that any matter in this case requires further attention prior to issuing a Notice of Allowance, he is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

By: 

John Paul Davis
Reg. No. 52,798

2700 Carew Tower
441 Vine Street
Cincinnati, Ohio 45202
Phone: (513) 241-2324
Fax: (513) 421-7269